Instructional and Education Technology Timeline: 1960 – 1980

<http://www.youtube.com/watch?v=2V1n3DcZGqk>

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**Definition**

Educational technology is the study and ethical practice of facilitating learning and improving performance by creating, using, and managing appropriate technological processes and resources (Januszewski, & Molenda, 2008, p. 1).

**Instructional and Education Technology Timeline: 1960 - 1980**

**Introduction**

The mindset necessary for an education technologist to effectively use technology is to be inquisitive, innovative and constructive. The education professional should seek opportunities to expand their instructional knowledge in theory and pedagogy. The technologist should identify tools that assist in developing students by using multiple learning methods to maximize a students learning style – Dede (Laureate Education Inc., 2008b). The instructor should focus on innovative methods to develop a collaborative and active or adaptive learning environment where the students assist in their growth of knowledge. Understanding the history of social, technology and business innovations provides the philosopher a collective experience that supports a foundation to develop effective instructional designs.

**1960s**

In the three decades from the 1960’s to the 1980’s, advancements in technology influenced the competition of international business, applications in education pedagogy and interactions between social groups in society. The 1960’s decade that influenced the future of instructional technology began from the momentum of school year changes, focused military training using media and a transition to a cognitive learning strategy in the late 1950’s (Saettler, 2004). This momentum advanced as the era of mass communication was advancing from film and radio to innovations in television and telephones that allowed for a broader dissemination of information in shorter periods of time. The progress in visual information encouraged the creation of a national public broadcast act focused on providing non-commercial innovative and instructive broadcast for educational television (Saettler, 2004). During this decade, satellites offered an expanded communication networks that would extend public television and global communications (Saettler, 2004). The global expansion of communication allowed businesses to expand beyond the borders and into new growing markets away from the commodities of oil, grain and dairy products. Corporations were able to diversify into international products and services. Businesses moved from the Mega Corporation into specialized markets including centers of technology, mass consumer travel and diversified financial organizations. Education’s cognitive learning strategies re-emerged by implementing Piaget’s Theory of problem solving, the use of close circuit television as instructional technology and new educational philosopher’s like Lewis Mumford and Robert Gagne’ were gaining notoriety (Saettler, 2004). The late 1960s saw the end of the decade of change and the emergence of personal computers, learning taxonomies and education technologies.

**1970s**

The transition from the 1960s to the 1970s included a growing movement towards cognitive applications in pedagogy and instructional methods. The development of knowledge was realized as a progressive process from data and information collection to the creation of understanding through the active involvement of the learner and their environment or social interaction (Laureate Education, 2008e; Saettler, 2004, p. 318). Although the cognitive science of learning is founded in the Greek philosophers of Plato and Aristotle, cognitive instructional methods were not the focus of instructional design from 1950 to 1980 (Saettler, 2004, p. 319). The “cognitive revolution” had been forming “in the decade 1955-1965”, and the emergence of technology as an instructional tool began to show promise as a “mental construction of the learner” (Saettler, 2004, pp. 318-319). Cognitive psychologist believed that knowledge was developed through processes or systems, which resembled computer programming and supported the development of ordered instruction, instructional simulation and interactive intelligence.

During the 1970s the expansion of personalized technology initiated an information age where second world organization began to expand, political parties lost influence and publicly available information influenced the consumer markets. The invention of the microprocessor reduced the size of computer-based technologies. The minimization of the computer processor supported the development of small, personal computers that allowed immediate access to information and instructional simulations (Yang, & Chang, 2013). The new information sources informed decisions and opinions. The influence of the customer on products and services shifted business models to performance based agreements as businesses were experiencing a knowledgeable consumer that expected a higher quality product. Privatization began to influence State security, business interest and education research.

In education, the focus on interactive learning was supported by Piaget’s theory of cognitive development; Brunner’s experiment of concept learning; and Ausubel’s theory of knowledge acquisition (Saettler, 2004). The emergence of a system and memory model approach to education encouraged multiple techniques that support the use of technology in instructional design such as progressive learning (Klahr, Bruner), knowledge organization (Ausubel) and problem solving (Newell et al., Resnick and Glaser). The AECT created a definition of education technology while Gagne’ and Bloom created taxonomies that explained the cognitive learning process. Educational television programs were extended as public and commercial broadcasting companies purchased and installed dedicated satellite systems. Ultimately, the 1970s continued the advancement of cognitive theory, the miniaturization of technology, the privatization of education research and expansion of knowledge resources.

**1980s**

Where the 1960s acknowledged the expansion of cognitive philosophy into education and the 1970s recognized an expanding role of cognitive systems in instructional pedagogy, the 1980s solidified cognitive development as a curriculum design. The raw data young students were acquiring provided an avenue for instructors to engage and mentor students as they constructed new knowledge through collaboration (Laureate Education, 2008e; Yang, & Chang, 2013). The direction from the instructor included growing the student’s ability to think critically and process information into useable knowledge (understanding, correlation, expectations, analyzing, etc.) (Yang, & Chang, 2013). These new instructional techniques and designs would continue to grow over the decades following the 1980s as a social constructivism approach to learning (Anderson, & Dron, 2010).

The 1980s expanded personal computer devices and mobile phones. The expansion of technology further globalized social interaction through interactive video, networking and instructional information systems. Communications systems expanded through the commercialization of digital voice and fiber innovations. Resource advancements in bio-fuels and renewable energy begin to be cost effective. The resulting effects of the digital age are increased advancements in systems supported by the microprocessor. Smaller nation States could afford advance weapons, and use this leverage to influence local and international politics (Hirst, & Thompson, 1995). These influences affected international markets, and created a realized threat in consumers that freely traveled to exotic locations. Additionally, the specialization of business practices in the 1970s began to influence the financial sector through deregulation of foreign exchanges (Bertucci, & Alberti, 2003). The deregulation of trading expanded the flow of the dollar and the United States positions in foreign markets. As the commercial and private sectors were seeing global advancements through technology, the applications of education technology were not keeping pace. Instructor influence was slowing instructional advancement. Where successes were realized, the instructor incorporated technology to improve the student’s cognitive development. Nonetheless, the National Education Department continued to support research in education technology. Education and industry member invested time and resources to advance the use of instructional technologies. A relationship in instruction and interactive technology begins to emerge as technology becomes more affordable and portable. A vision of the 21st Century learner appears as a connected student with expanding digital resources to create knowledge within a globalized network community of academics (Siemens, 2005).

**Conclusion**

The information age that was founded in the innovations of the 1960s began in 1970 to provide historical improvements socially, technologically and commercially. The improvements in technology created a global community where business and corporate organizations transitioned from a mega business model to a refined model of marketing into expanded products. The inclusive society and culture of the digital age allowed distant communities to interact and leverage technology to meet nation State goals. Educational theories transitioned from a behaviorist or stimulus/response instructional design to the cognitive approach of systems where the student interacts with information to learn.

Finally, technology would continue to provide advancements in communication devices to support the development of distance learning. The methods of developing, acquiring, and experiencing information would continue to expand new ways to “transfer” knowledge (Ertmer & Newby, p. 55). Looking ahead, the future interactive age would provide an immediate connection to collaborative engagement in physical and virtual learning environment that focused on the individual – Dr. Dede (Laureate Education Inc., 2008b). Ultimately, new advancements in nanotechnology would support smaller personal devices to expand the interactive engagement of students with new learning opportunities. Consequently, the challenge for the future would be to design coursework to take advantage of these tools while maintaining the integrity of an effective and outcome-based learning environment.

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| **PART 2: ANALYTICAL PAPER OR PODCAST**  **Reflective Paper or Podcast Analyzing Three Decades on Your Timeline**  **44 points total** | |
| 4 = Acceptable as written; Solid work; Demonstrates critical thinking and reflection  3 = Acceptable as written; Solid work that meets criteria  2 = Acceptable as written; Approved with revisions suggested, but not required  1 = Revisions required  0 = Unacceptable: Addition of missing components is required. | |
| **Title Page (4 possible points)** | ***Rating***  ***(Click here* ↓*)*** |
| The Title Page follows APA guidelines for format.   1. Includes your name and email address 2. Title of the Project 3. Date of Submission 4. Your degree program 5. The course number and title   The Title Page accompanies the paper, or is attached to the reference list for those who create a podcast.  Comments: (click here→) |  |
| **Introduction (4 possible points)** |  |
| Introduction  a. Introduction tells which three decades were chosen for analysis:  b. Explains why the three decades were chosen  c. Explains which key technological advances took place in the three decades that will serve as the basis for discussion  Comments: (click here→) |  |
| **Decade 1 Analysis (8 possible points, 4 per criteria)** |  |
| Decade 1: (between 1950 and the present decade)   1. How did technology influence the development of the other items in your timeline for this decade? Include citations to provide support for your assertions.   Comments: (click here→) |  |
| Decade 1: (between 1950 and the present decade)   1. How did the other items in your timeline influence the development of new technologies for this decade? Include citations to provide support for your assertions.   Comments: (click here→) |  |
| **Decade 2 Analysis (8 possible points, 4 per criteria)** |  |
| Decade 2: (between 1950 and the present decade)   * 1. How did technology influence the development of the other items in your timeline for this decade? Include citations to provide support for your assertions.   Comments: (click here→) |  |
| Decade 2: (between 1950 and the present decade)   * 1. How did the other items in your timeline influence the development of new technologies for this decade? Include citations to provide support for your assertions.   Comments: (click here→) |  |
| **Decade 3 Analysis (8 possible points, 4 per criteria)** |  |
| Decade 3: (between 1950 and the present decade)   1. How did technology influence the development of the other items in your timeline for this decade? Include citations to provide support for your assertions.   Comments: (click here→) |  |
| Decade 3: (between 1950 and the present decade)   1. How did the other items in your timeline influence the development of new technologies for this decade? Include citations to provide support for your assertions.   Comments: (click here→) |  |
| **Conclusion (4 possible points)** |  |
| Conclusion:   1. Summarizes the influence of the key technological advances you selected on the other strands 2. Summarizes the influence the other strands had on the key technological advances you selected.   Comments: (click here→) |  |
| **References and Citations (8 possible points)** |  |
| Citations are compiled and presented in a reference list, written in APA format.  Citations are presented following the conclusion of the paper, or in a separate document for those who create the podcast.  The paper or podcast with references is posted at the learner’s wiki.  Comments: (click here→) |  |
| Proper grammar and spelling are used. Work is turned in on time  Comments: (click here→) |  |
| **Total Possible Points: 44** |  |